

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
12 February 2004 (12.02.2004)

PCT

(10) International Publication Number  
**WO 2004/012837 A3**

(51) International Patent Classification?: **A01N 1/02**, G01N 1/30, 33/48, C07K 1/00, A61B 17/43, A61D 7/00

(21) International Application Number:  
**PCT/US2003/024460**

(22) International Filing Date: 1 August 2003 (01.08.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/400,971 1 August 2002 (01.08.2002) US

(63) Related by continuation (CON) or continuation-in-part (CIP) to earlier application:

US 60/400,971 (CIP)  
Filed on 1 August 2002 (01.08.2002)

(71) Applicants (*for all designated States except US*): XY, INC. [US/US]; 1108 North Lemay Avenue, Fort Collins, CO 80524 (US). COLORADO STATE UNIVERSITY [US/US]; Colorado State University Research Foundation, 601 South Howes Street, Room 410, Fort Collins, CO 80522 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): SCHENK, John, L. [US/US]; XY, INC., 1108 North Lemay Avenue, Fort Collins, CO 80524 (US). SEIDEL, George, E. [US/US]; XY, INC., 1108 North Lemay Avenue, Fort Collins, CO 80524 (US). SUH, Tae, Kwang [KR/US]; XY, INC., 1108 North Lemay Avenue, Fort Collins, CO 80524 (US).

(74) Agent: MILES, Craig, R.; Santangelo Law Offices, P.C., 125 South Howes, Third Floor, Fort Collins, CO 80521 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE

(utility model), EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *as to the identity of the inventor (Rule 4.17(i)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

Published:

— *with international search report*  
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:  
19 August 2004

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

WO 2004/012837 A3

(54) Title: LOW PRESSURE SPERM CELL SEPARATION SYSTEM

(57) Abstract: A sperm cell process system providing to generate sperm cell insemination samples having controlled sperm cell fertility characteristics of sperm cells.